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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,068	12/29/2005	Keith Edwards	920476-102276	3666
23644 7590 05/25/2007 BARNES & THORNBURG LLP P.O. BOX 2786 CHICAGO, IL 60690-2786			EXAMINER DAO, MINH D	
			ART UNIT 2618	PAPER NUMBER
			MAIL DATE 05/25/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/563,068

Applicant(s)

EDWARDS, KEITH

Examiner

MINH D. DAO

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_ is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Response to Arguments***

In response to applicant's remark, page 8 regarding claim 1, that Kumar does not teach "uplink and downlink channel are not paired with each other by a consistent frequency offset". This limitation is not recited in claim 1.

Applicant should clarify the term "terminal", as broadly claimed, as to refer it to a mobile station that is different from a base station because the term "terminal" can be interpreted as either a mobile or a base station or a communication unit at one end of a communication link.

The rest of Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1,2,8-18,24-34 rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar et al. (US 6,434,367) in view of Nakano et al. (US 6,741,837).

Regarding claim 1, Kumar teaches a method of operating a terminal in a wireless communications system, the system having a plurality of uplink and downlink channels available for use, the terminal being arranged to use an uplink channel and a downlink channel selected from the plurality (see figs. 2 and 3) comprising: determining whether the terminal is transmitting at a power which may cause interference to an adjacent uplink channel (see figs. 2 and 3; col. 5, lines 46-67). However, Kumar does not mention determining which downlink channel is associated with the adjacent uplink channel; monitoring that downlink channel and deciding, on the basis of the monitoring, whether there is a need to operate the terminal in a manner which will reduce interference. Nakano, in an analogous art, teaches a mobile monitoring quality of a downlink channel transmitted from a base station and halts its transmission at the adjacent frequency when the signal quality monitored drops below a acceptable level (see col. 2, lines 4-19; col. 8, lines 52-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the above teaching of Nakano to Kumar in order for the combined system to avoid interference by the above teaching rather than using the guard band as taught by Nakamo (see col. 1. line 65 to col., 2, line 3).

Regarding claim 2, the combination of Kumar and Nakano teaches a method according to claim 1 wherein there is a first band of channels and a second band of channels available for use and the terminal can use either an uplink channel and a downlink channel from the first band (see Kumar, figs. 2 and 3; col. 5, lines 46-67). In this case Kumar inherently, as it is also well known in the art cellular communication, teaches that the uplink and downlink channels of cellular communication are separated by a frequency separation or offset to prevent interference.

Regarding claim 8, the combination of Kumar and Nakano teaches a method according to claim 1 further comprising operating the terminal in a manner which will reduce interference by selecting an alternative transmission rate for the terminal (see Kumar, col. 1, line 66 to col. 2, line 17).

Regarding claim 9, the combination of Kumar and Nakano teaches a method according to claim 1 further comprising operating the terminal in a manner which will reduce interference by selecting an alternative transmission system for the terminal (see Kumar, col. 1, line 66 to col. 2, line 17). In addition, the system of Kumar that handles high and low data rates reads on the alternative transmission system of the present invention.

Regarding claim 10, the combination of Kumar and Nakano teaches a method according to claim 1 wherein the step of monitoring that downlink channel comprises monitoring a metric which is indicative of usage of that downlink channel (see Kumar, figs. 2 and 3; col. 5, lines 46-67).

Regarding claim 11, the combination of Kumar and Nakano teaches a method according to claim 10 wherein the metric is received power (see Kumar, figs. 2 and 3; col. 5, lines 46-67).

Regarding claim 12, the combination of Kumar and Nakano teaches a method according to claim 1 wherein the step of monitoring that downlink channel comprises determining whether the terminal is likely to cause interference to the adjacent uplink channel associated with that downlink channel (see Kumar, figs. 2 and 3; col. 5, lines 46-67).

Regarding claim 13, the combination of Kumar and Nakano teaches a method according to claim 1 wherein, if the terminal is not transmitting at a power which may cause interference to an adjacent uplink channel, the other steps of the method are not performed (see Kumar, figs. 2 and 3; col. 5, lines 46-67).

Regarding claim 14, the combination of Kumar and Nakano teaches a method according to claim 1 further comprising exchanging signaling information between the

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terminal and network to operate the terminal in a manner which will reduce interference (see Kumar, figs. 2 and 3; col. 5, lines 46-67). In this case, it is well known in the art of cellular communication that the network is always capable of knowing what communication information is being used between the users and the network in order to keep track the performance of the network.

Regarding claim 15, the combination of Kumar and Nakano teaches a method according to claim 1 wherein the wireless communications system is a wideband wireless communications (see Kumar, col. 6, lines 28-46). The CDMA system of Kumar reads on the wideband wireless communications of the present invention.

Regarding claim 16, the combination of Kumar and Nakano teaches a method according to claim 15 wherein the wideband communications system is a W-CDMA system (see Kumar, col. 6, lines 28-46). The CDMA system of Kumar reads on the W-CDMA wireless communications of the present invention.

Regarding claim 17, the claim includes the limitations as that of claim 1, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 1.

Regarding claim 18, the claim includes the limitations as that of claim 2, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 2.

Regarding claim 24, the claim includes the limitations as that of claim 8, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 8.

Regarding claim 25, the claim includes the limitations as that of claim 9, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 9.

Regarding claim 26, the claim includes the limitations as that of claim 10, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 10.

Regarding claim 27, the claim includes the limitations as that of claim 11, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 11.

Regarding claim 28, the claim includes the limitations as that of claim 14, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 14.

Regarding claim 29, Kumar teaches a terminal for use in a wireless communications system including a control apparatus according to claim 17 (see Kumar, fig. 3, item 302).

Regarding claim 30, the combination of Kumar and Nakano teaches a wireless communications system incorporating a terminal according to claim 29 (see Kumar, fig. 3, item 302).



Regarding claim 31, the claim includes the limitations as that of claim 15, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 15.

Regarding claim 32, the claim includes the limitations as that of claim 16, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 16.

Regarding claims 33 and 34, the claims include the limitations as that of claim 1, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 1.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3-7, 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar et al. (US 6,434,367) in view of Nakano et al. (US 6,741,837) and further in view of Skafidas et al (US 2004/0259558 A1).

Regarding claim 3, examiner takes official notice that Kumar teaches that the first band of channels, each uplink channel is paired with a downlink channel, with the

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uplink and downlink channels in each pair being separated by a known frequency offset as this is a well known implementation, approved by the FCC, for cellular system to operate. In addition, as mentioned above, the combination of Kumar and Nakano teaches the limitations of claim 1 but does not disclose determining a downlink channel which is offset from the adjacent uplink channel by the known frequency offset.

Skafidas, in an analogous art, teaches a wireless communication system that determines channel frequency separations required to create a list of interference-free channels for the system to operate on in order to prevent interference and also meet a specific power constraints (see section [0126]). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the above teaching of Skafidas to Kumar and Nakano in order for the combined system to have a list of clean channels therefore to improve the performance of the system.

Regarding claim 4, the combination of Kumar, Nakano and Skafidas obviously teaches that the first band of channel is a core band of channels and the second band of channels is an extension band of channels because the frequency separations determined by the system of Skafidas for each clean channel can fall in the extended band of the system.

Regarding claim 5, the combination of Kumar, Nakano and Skafidas teaches operating the terminal in a manner which will reduce interference by selecting an alternative

uplink channel for the terminal to use and transferring communication to the selected alternative uplink channel (see Skafidas, section [0126]).

Regarding claim 6, the combination of Kumar, Nakano and Skafidas teaches selecting an alternative uplink channel comprises testing whether the alternative channel is acceptable for use (see Skafidas, section [0126]).

Regarding claim 7, the combination of Kumar, Nakano and Skafidas teaches testing whether the alternative channel is acceptable for use comprises monitoring a metric which is indicative of usage of a downlink channel which is associated with an uplink channel that is adjacent to the alternative channel (see Skafidas, section [0126]; also see Kumar, figs. 2 and 3; col. 5, lines 46-67).

Regarding claim 19, the claim includes the limitations as that of claim 3, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 3.

Regarding claim 20, the claim includes the limitations as that of claim 4, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 4.

Regarding claim 21, the claim includes the limitations as that of claim 5, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 5.

Regarding claim 22, the claim includes the limitations as that of claim 6, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 6.


Regarding claim 23, the claim includes the limitations as that of claim 7, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 7.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINH D. DAO whose telephone number is 571-272-7851. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MATTHEW ANDERSON can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Minh Dao   
AU 2618  
May 21, 2007

  
Matthew Anderson  
Supervisor AU 2618